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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.		
10/632,525	07/31/2003	Robert C. Aiken II	DB001213-000	4351		
24122	7590	04/21/2008	EXAMINER			
THORP REED & ARMSTRONG, LLP ONE OXFORD CENTRE 301 GRANT STREET, 14TH FLOOR PITTSBURGH, PA 15219-1425				NGUYEN, PHUONGCHAU BA		
ART UNIT		PAPER NUMBER				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/632,525	AIKEN ET AL.	
	Examiner	Art Unit	
	PHUONGCHAU BA NGUYEN	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 31 July 2003.
 2a) This action is **FINAL**. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-74 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) 1-19 and 38-64 is/are allowed.
 6) Claim(s) 20,22,24,28,29,37,65-67 and 71-73 is/are rejected.
 7) Claim(s) 21,23,25-27,30-36,69-70 is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 26 February 2004 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ . |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>12-21-6,1-8-4</u> . | 6) <input type="checkbox"/> Other: _____ . |

Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claim 65 is provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 30 of copending Application No. 10/702,062 (Amendment 6/26/07). Although the conflicting claims are not identical, they are not patentably distinct from each

other because the application claim 66 merely broadens the scope the provisional application by eliminating the timing means.

However, the copending application claim does explicitly disclose "first and second half duplex wireless channels" in the preamble of the claim. The recitation "first and second half duplex wireless channels" has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

It would have been obvious to one skilled in the art at the time invention was made to eliminate limitations that are not unnecessary for their invention and to rephrase elements so long as the unit or element under different name would perform the same function.

Also, it has been held that the omission of an element and its function is an obvious expedient if the remaining elements perform the same function as before. *In re Karlson*, 136 USPQ 184 (CCPA). Also note *Ex parte Rainu*, 168 USPQ 375 (Bd. App. 1969); omission of a reference's element whose function is not needed would be obvious to one skilled in the art.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections – 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 74 recites the limitation "said monitors" in lines 1–2. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections – 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 65–67 are rejected under 35 U.S.C. 102(e) as being anticipated by Breed (US 2007/0021915 A1).

Regarding claim 65, Breed discloses a controller for use in a system for remotely controlling a locomotive via first and second half duplex wireless channels and a plurality of repeaters comprising:

a transmitter, a receiver (0123–means whereby vehicles near each other can communicate their position and/or their velocity to each other), and a

memory containing the coordinates of a plurality of geographic zones (0128–OpenGIS map database) (see also 0225–0026, 0234 & 0236–0237).

Regarding claim 66, Breed further discloses wherein said memory (OpenGIS map database, 0128) contains predetermined repeater address assignments for each of said plurality of geographic zones (see also 0225–0026, 0234 & 0236–0237).

Regarding claim 67, Breed discloses a repeater for use in a system for remotely controlling a locomotive via first and second half duplex wireless channels comprising:

a transmitter, a receiver (0123–means whereby vehicles near each other can communicate their position and/or their velocity to each other), a microprocessor and a memory containing an address for each of a plurality of

controllers and a plurality of control units (0128–OpenGIS map database) (see also 0225–0026, 0234 & 0236–0237).

Claim Rejections – 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 20, 22, 24, 28–29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wells (5,691,980) in view of Horst (US 2004/0117073 A1).

Regarding claim 20, Wells discloses a system for remotely controlling a plurality of locomotives within a geographic zone via first and second half duplex wireless channels comprising:

a plurality of controllers each comprising a transmitter, a receiver, a memory containing coordinates of said geographic zone and a plurality of sub–

zones within said geographic zone (col.2, line 59–col.3, line 7 & col.5, lines 4–23), wherein each of said controllers is for installation on one of said locomotives (figs.1 & 3, controllers 82);

a GPS receiver operably connected to each controller (col.5, lines 13–23);

a plurality of control units each comprising a transmitter and a receiver, wherein each of said control units is associated with one of said controllers for transmitting signals thereto and receiving signals therefrom (figs.1 & 2, mobile tracking units 10); and

Wells discloses all the claimed limitations, except (1) a plurality of repeaters located within said geographic zone, wherein each of said repeaters has an address code and comprises a transmitter, a receiver, a microprocessor.

However, in the same field of endeavor, Horst (US 2004/0117073) discloses repeaters (figs.1 & 3, see 0071–72), corresponding to (1). Therefore, it would have been obvious to an artisan to apply Horst's teaching to Wells'

system with the motivation being to extend the radio range of the remote control units.

Regarding claim 22, Horst further discloses wherein each of said repeaters is located in a different sub-zone (figs.3 & 5a, 0072-0075).

Regarding claim 24, Wells further discloses wherein each of said plurality of controllers periodically receives coordinates of the geographic position of its respective locomotive from its respective GPS receiver, (figs. 1-3, col.2, 59-col.3, line 25; col.3, line 59-col.4, line 53; col.10, lines 19-26).

Regarding claim 28, Wells further discloses wherein each controller is assigned a time slot for sending a polling signal to its associated control unit and receiving a responsive transmission therefrom (col.8, lines 40-55)

Regarding claim 29, Wells further discloses wherein each repeater further comprises a timing means (col.8, lines 56–67) and a GPS receiver (col.5, lines 13–23) & see also figs.5a–5b in Horst.

Regarding claim 37, Wells discloses all the claimed limitations, except each repeater has memory. Horst further discloses wherein each repeater has a memory (not shown, see 0074, wherein the repeater has a computer readable medium for storing time intervals, and see 406–fig.5a & 456–fig.5b).

Horst's memory does not explicitly disclose containing an address for each of said plurality of controllers, an address for each of said control units and the time slot assignments for each of said controllers and control units. However, it would have been obvious to an artisan to store the assigned timeslot and which address the assigned timeslot assigned to on the memory with the motivation being to keep track of assigned bandwidth so as to allow a larger number of assets to be tracked.

8. Claims 68, 71–73 are rejected under 35 U.S.C. 103(a) as being unpatentable over Breed as applied to claim 67 above, and further in view of Wells (5,691,980).

Regarding claim 68, Breed discloses all the claimed limitations, except (1) wherein said memory contains a record of a plurality of time slots and a record of the time slot assignments for said plurality of controllers and said plurality of control units.

However, in the same field of endeavor, Wells (5,691,980) discloses a master assigning a timeslot to each slave tracking unit, col.8, line 40–col.9, line 16, corresponding to (1). Therefore, it would have been obvious to an artisan to apply Wells' teaching to Breed's system with the motivation being to provide a local area network of tracked assets which utilizes minimal bandwidth so as to allow a larger number of assets to be tracked.

Regarding claims 71–72, Wells further discloses a timing means (distributing timeslot to each slave unit, col.8, lines 40–45), a GPS receiver (col.5, lines 9–16).

Regarding claim 73, Wells further discloses wherein said timing means is synchronized by a signal from said GPS receiver (col.5, lines 57–59).

Allowable Subject Matter

9. Claims 21, 23, 25–27, 30–36, 69–70 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. The following is an examiner's statement of reasons for allowance:

Regarding claims 1–19, the prior art fails to teach a system for remotely controlling a plurality of locomotives via first and second half duplex wireless

channels comprising "wherein each controller is assigned a timeslot for sending a polling message to said associated control unit and receiving a responsive transmission therefrom; and wherein each repeater receives a signal from one of said controllers and control units on said second half duplex wireless channel and retransmits said signal on said first half duplex wireless channel," which is considered in combination with other limitations, as specified, in the independent claim 1.

Regarding claims 38–64, the prior art fails to teach a system for remotely controlling a plurality of locomotives within a geographic zone via first and second half duplex wireless channels comprising "wherein said controller is assigned a time slot for sending said polling signal to its associated control unit and receiving said responsive signal; and wherein each repeater has a unique address and receives signals from said controllers and control units on said second half duplex wireless channel and transmit signals to said controllers and control units on said first half duplex wireless channel," which is considered in combination with other limitations, as specified, in the independent claim 38.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PHUONGCHAU BA NGUYEN whose telephone number is (571)272-3148. The examiner can normally be reached on Monday–Thursday from 8:30 a.m. to 7:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Firmin Backer can be reached on 571-272-6703. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/PHUONGCHAU BA NGUYEN/
Examiner, Art Unit 2616

/Melvin Marcelo/
Primary Examiner, Art Unit 2616